

zigzag pattern, are modified into run, level data and then are variable-length coded in a coding system for image data, said method comprising the steps of:

- 5     setting a plurality of variable-length coding tables having different patterns of a regular region and an escape region according to statistical characteristics of said run, level data;
- 10    selecting one of said plurality of variable-length coding tables according to intra/inter mode information of the currently processed block, zigzag scanning position and quantization step size; and

15    variable-length coding the orthogonal transform coefficients according to said selected variable-length coding table, wherein said selecting step has the selecting range of a plurality of variable-length coding tables having different patterns of a regular region and an escape region according to said intra/inter mode information of the currently processed block.

20    2. The adaptive variable-length coding method as claimed in claim 1, wherein said variable-length coding table is selected in accordance with said zigzag scanning position and quantization step size within the range determined by the corresponding mode.

25    3. The adaptive variable-length coding method as claimed in claim 1, wherein data of said escape region of said variable-length coding table selected in said variable-length-coding step is coded into data having variable run-length and level-length.

30    4. An adaptive variable-length decoding method for decoding the data coded by said adaptive variable-length coding method as claimed in claim 1, in a decoding system for image data, said decoding method comprises the steps of:

- 35     setting a plurality of variable-length decoding tables having different patterns of a regular region and an escape region according to statistical characteristics of the run, level data;

inputting intra/inter mode information transmitted from said coding system;

40    inputting quantization step size transmitted from said coding system;

detecting position information while zigzag-scanning by accumulating run values of run, level data;

- 45    selecting one of said plurality of variable-length coding tables according to said intra/inter mode information, quantization step size and position information; and
- variable-length decoding the data received according to said selected variable-length coding table.

50    5. The adaptive variable-length decoding method as claimed in claim 4, wherein said variable-length decoding table selecting step has the selection range of a plurality of variable-length coding tables having different patterns of a regular region and an escape region according to said intra/inter mode information of the currently processed block in said mode information inputting step.

55    6. The adaptive variable-length decoding method as claimed in claim 5, wherein said variable-length decoding table is selected in accordance with said zigzag scanning position and quantization step size within the range determined by the corresponding mode.

60    7. The adaptive variable-length decoding method as claimed in claim 4, wherein data of said escape region of said variable-length decoding table selected in said variable-length-decoding step is decoded into run, level data corresponding to variable run-length and level-length.

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8. An adaptive variable-length coding method in which quantized orthogonal transform coefficients are scanned in a predetermined pattern, and then are variable-length coded in a coding system for image data, said method comprising the steps of:

setting a plurality of variable-length coding tables;

selecting one of said plurality of variable-length coding tables according to intra/inter mode information, and scanning position and quantization step size, wherein said

selecting step has the selecting range of a plurality of variable-length coding tables;

and

variable-length coding said quantized orthogonal transform coefficients according to said selected variable-length coding table.

9. The adaptive variable-length coding method of claim 8, wherein said variable-length coding tables have different patterns of a regular region and an escape region.

10. The adaptive variable-length coding method as claimed in claim 9, wherein said variable-length coding table is selected in accordance with said scanning position and quantization step size within the range determined in accordance with said intra/inter mode information.

11. The adaptive variable-length coding method as claimed in claim 9, wherein data of said escape region of said variable-length coding table selected in said variable-length-coding step is coded into data having variable run-length and level-length.

12. An adaptive variable-length decoding method for decoding the data coded by an adaptive variable-length coding method, in a decoding system for image data, said decoding method comprising the steps of:

receiving intra/inter mode information;

receiving quantization step size;

detecting position information;

selecting one of a plurality of variable-length decoding tables according to said intra/inter mode information, quantization step size and position information; and

variable-length decoding the data received according to said selected variable-length coding table.

13. The adaptive variable-length decoding method of claim 12, wherein said detecting position information step is performed by in accordance with run, level data.

14. The adaptive variable-length decoding method as claimed in claim 13, wherein said variable-length decoding table selecting step has the selection range of a plurality of variable-length decoding tables having different patterns of a regular region and an escape region according to said intra/inter mode information of the currently processed block in said mode information inputting step.

15. The adaptive variable-length decoding method as claimed in claim 14, wherein said variable-length decoding table is selected in accordance with said zigzag scanning position and quantization step size within the range determined in accordance with said intra/inter mode information.

16. The adaptive variable-length decoding method as claimed in claim 15, wherein data of said escape region of said variable-length decoding table selected in said variable-length decoding step is decoded into run, level data corresponding to variable run-length and level-length.

17. The adaptive variable-length decoding method of claim 16, wherein said detecting position information step is performed by accumulating the number positions indicated by a run value and level data.

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